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XLIV. *A remarkable Case of Fragility, Flexibility, and Dissolution, of the Bones ; communicated by John Pringle, M.D. F.R.S.*

Read July 12, 1753. **M**ARY Hayes, of Stoke-Holy-Cross, near Norwich in Norfolk, gave the following Account, June 21, 1752 :

That she was born Jan. 11, 1718, and never married, or was addicted to any kind of Intemperance : That her father was unhealthy a great part of his life, but she knew not what disease he was subject to : That her mother died when she was a child ; but she did not remember she ever heard of her being unhealthy : That she herself was always look'd upon as an healthy strong girl, till about 15 years of age ; then fell into the green-sickness, and took various medicines, to no purpose : That this disease, as far as she could recollect, was all she had to complain of ; doing the ordinary work in a farmer's house, till October 1748 : Then was seiz'd with pain univerfally, attended with feverish symptoms. Thus she continued some weeks ; after which the pain was chiefly confined to her thighs and legs, but not increased by external pressure : That, in September 1749, she broke her leg, as she was walking from the bed to her chair, without falling down, and heard the bones snap. The fracture was properly treated, and regard had to her indisposition ; but no callus was generated ; the bones growing flexible from the knee to the ankle in a few months ; as did those of her other leg. Soon after, those of her thighs were visibly affected in the like manner.

Both legs and thighs then became very œdematous, and subject to excoriate, discharging a thin yellow ichor.

The winter after breaking her leg, she had symptoms of the scurvy, and bled much at the gums.

Many eminent physicians, who were of opinion, that this disease of the bones might arise from acidity abounding in the blood, prescribed for her, but without effect: unless the regularity of her menstruation for the last eighteen months may be attributed to a chalybeate medicine: tho' medicines of that nature had no such effect formerly, when she was in a condition to take exercise, and regularly persisted in the use of them.

For some considerable time past she had found little alteration in her complaints in general; thought her appetite and digestion rather better, but that the difficulty of breathing, which she had long labour'd under, gradually increased: and the thorax appeared so much straiten'd, as necessarily impeded the expansion of the lungs. Her spine became much distorted: any motion of the vertebræ of her loins gave extreme pain; and her thighs and legs were become intirely useless; which wholly confined her to her bed, in a sitting posture: and the bones she rested upon, having lost their solidity, were much spread. Also the ends of her fingers and thumbs, by frequent endeavours to lift herself up for ease, became very broad and flat. Then she measured but four feet; tho', before this disease came upon her, she was about five feet and a half high, and well-shaped.

This is the best information that could be obtained from her own mouth, and what was observed in the case

case before, and at the first-mention'd time, when she readily consented to the examination of her body, &c. after death.

From that time to her death, which happened Feb. 6, 1753, the chief thing she complain'd of, and what the people about her observed, was a gradual increase of difficulty of breathing; a wasting of her flesh; a cessation of her menstruation for the last four months; a tendency in her legs to mortify, which had long been anasarcaous, and excoriated almost all over; she retaining her senses perfectly to the last moment of her life, and dying without shewing the least signs of the agonies of death.

Two days after death, her limbs being first well stretched out, she was exactly measured, and found wanting of her natural stature more than two feet two inches. Then the thorax and abdomen were opened, the sternum being intirely removed, with part of the ribs, in order to gain at once a full view of those cavities, and discover how the viscera therein contained had obstructed each other in their respective functions. The heart and lungs were found, but flaccid, and much confined in their motion; to which the enormous size of the liver contributed in some measure, extending quite cross the abdomen, and bearing hard against the diaphragm. The lungs did not adhere to the pleura; nor was the liver scirrhus, but faulty only in its bulk. The mesentery was found, except only one large scirrhus gland upon it. The spleen extremely small. Nothing else was found observable in those cavities.

The scull was not opened, to examine the brain, as intended, we wanting time; the minister waiting at

church for interment, and the relations growing impatient ; but we had no reason to suspect any defect there, from any previous complaint.

All her bones were more or less affected, and scarce any would resist the knife : those of the head, thorax, spine, and pelvis, nearly to the same degree of softness : those of the lower extremities much more dissolved than those of the upper, or of any other part. They were cut quite thro' their whole length, without turning the edge of the knife, and much less resistance found, than firm muscular flesh would have made ; being changed into a kind of parenchymous substance, like soft dark coloured liver, only meeting here and there with bony *laminæ*, thin as an egg-shell.

Those bones were most dissolved, which, in their natural state, were most compact, and contained most marrow in their cavities ; and the heads of them were least dissolved.

This, perhaps, is the more worthy observation, as it held good throughout, and looks as if the wonderful change they had undergone might be caused by the marrow having acquired a dissolving quality : for it was evident the dissolution began within, from the bony *laminæ* remaining here and there on the outside, and no-where else, and the pain not being increased at first by external pressure.

The periosteum was thicker than ordinary : the cartilages rather thinner ; but no-where in a state of dissolution like the bones.

The day after this examination, some of the whole substance of the leg and thigh-bones, that was intirely dissolved into a kind of pulp, was sent to an ingenious chemist ;

chemist; and, by the experiments which he made, he said he could discover neither acid nor alkali prevailing in it.

We, whose names are subscribed, do attest the truth of this relation.

June 25, 1753.

B. DACK, Physician.

EDWARD COOPER, } Surgeons.
B. GOOCH, }

XLV. *Astronomical Observations made in*
Surry-street, London, by J. Bevis, M. D.
and James Short. A. M. F. R. S.

Read Nov. 8,
1753.

Eclipse of *Venus* by the *Moon*.

Apparent Time.

d h ' "

1753 July 26 16 2 17 Venus totally hid by the
Moon.

17 5 6 Her northern cusp emerg'd:
and, a few seconds after,
her southern one.

5 31 Venus was totally emerged.
All these with a reflect-
or of two feet focus.

Then her diameter was
found to be $32\frac{3}{4}''$, with
a new kind of micro-
meter (of which more
hereafter); and also with
one of Mr. Graham's
fort,